1995 NATIONAL VEHICLE PREFERENCE SURVEY: CONSUMER ATTITUDES

Argonne National Laboratory, Center for Transportation Research

Vehicles powered by such alternative fuels as methanol, ethanol, compressed natural gas (CNG), liquefied petroleum gas (LPG), and electricity will reduce U.S. petroleum usage. Apart from reducing petroleum dependence, these vehicles could also improve urban air quality.

How will the American households accept these alternative fuel vehicles? Argonne National Laboratory undertook a survey in which randomly selected households responded to questions relating to selecting alternative fuel vehicles. Market penetration models will be developed by using coefficients derived from the survey data. These models will be used in projecting future market shares for the alternative fuel vehicles.

SURVEY PROCEDURE

The survey covered 47 states. Three states, Alaska, California, and Hawaii were excluded. When supplemented with the data from a similar survey in California, the survey will cover the continental United States.

The survey involved 3 stages:

(1) an initial computer aided telephone interview (CATI-1) of households,

(2) development of a customized questionnaire that is mailed to the household, and

(3) a second computer aided telephone interview (CATI-2) to retrieve the responses to the mailed questionnaire.

Several additional questions relating to consumer awareness of alternative fuels were asked during CATI-2. The sample is geographically stratified by census division and the households were selected through random-digit dialing.

The design of the national survey is compatible with a similar survey conducted by the Institute of Transportation Studies (ITS) at the University of California, Irvine covering California households.

SURVEY CONTENTS

The CATI-1 data include basic household structure and demographics, current vehicle holdings, vehicle purchasing behavior, and housing characteristics. CATI-1 data cover 1,903 households. The CATI-2 data include detailed information on commuting behavior, household response to a hypothetical fuel conversion scenario, household preference for a particular alternative fuel vehicle from a set of several, respondent attitude towards key energy and emissions issues, and awareness of alternative fuel vehicles. CATI-2 data cover 1,147 households.

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SAMPLE RESULTS

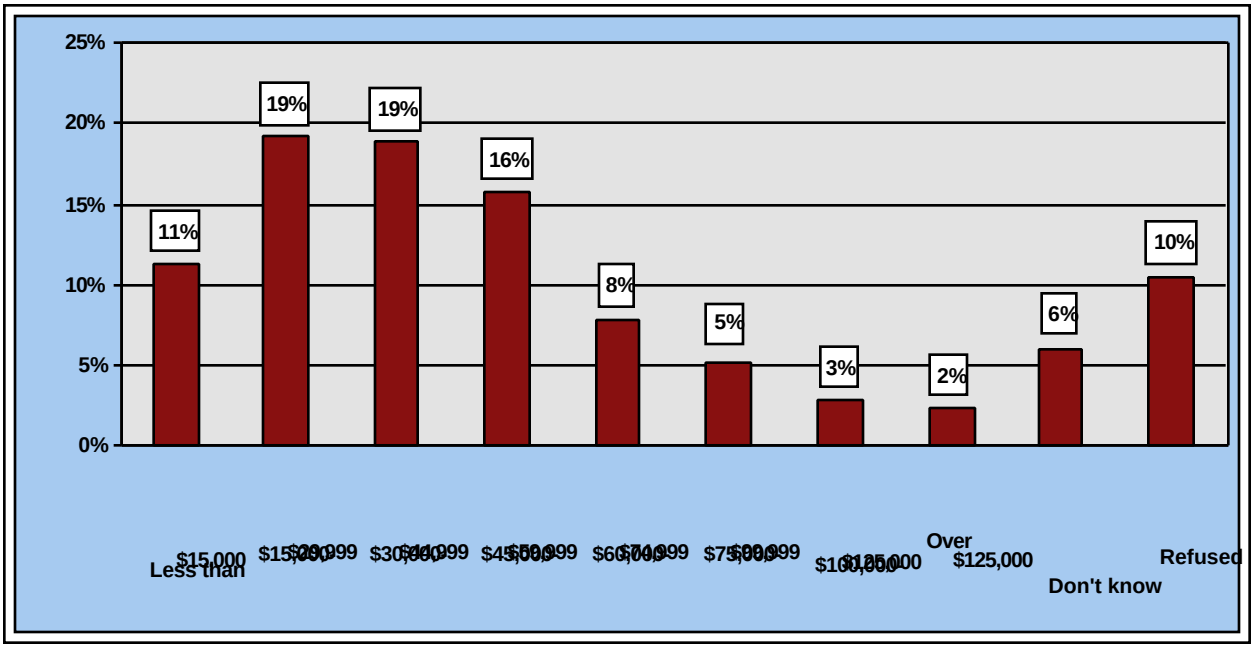

Figure 1.1 Distribution of Annual Pretax Income of CATI-1 Households

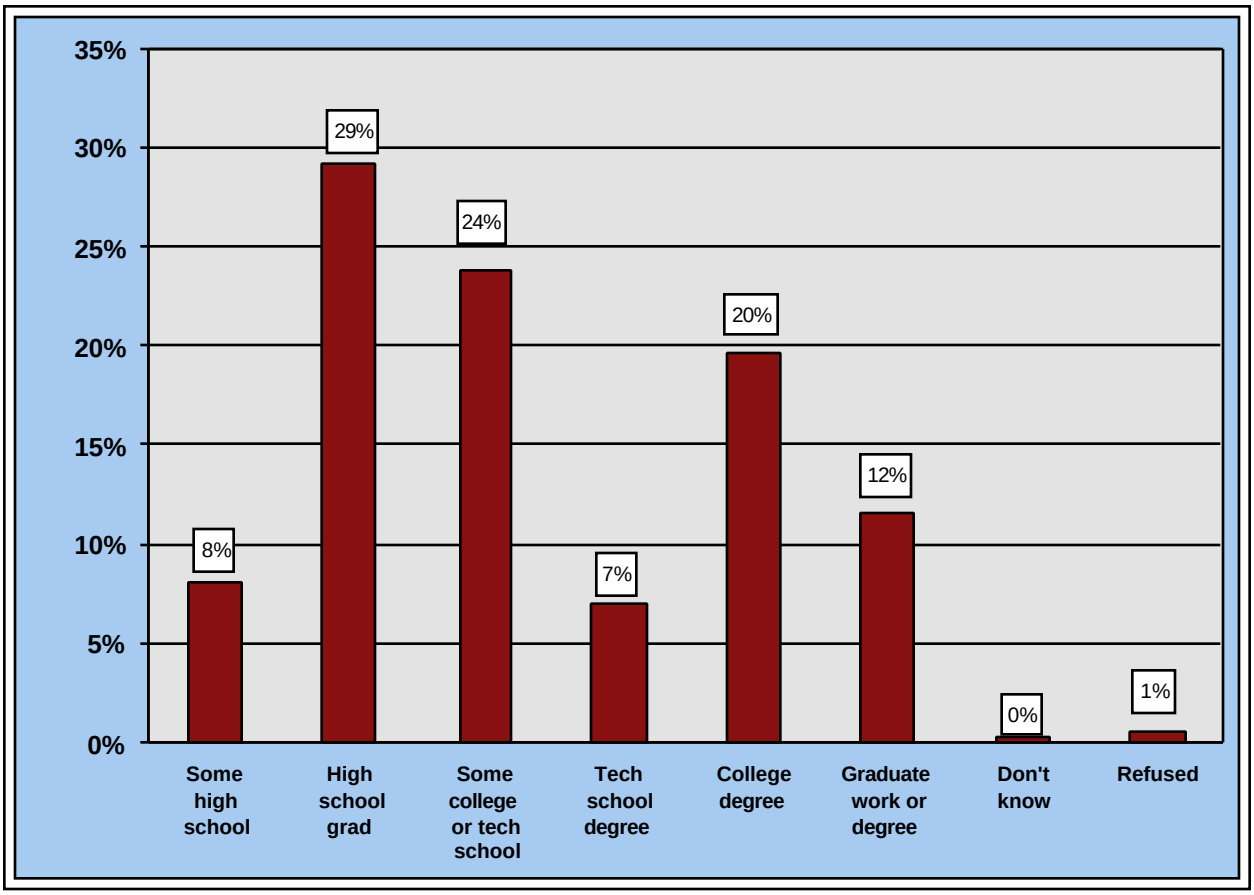

Figure 1.2 Education Level of CATI-1 Respondents

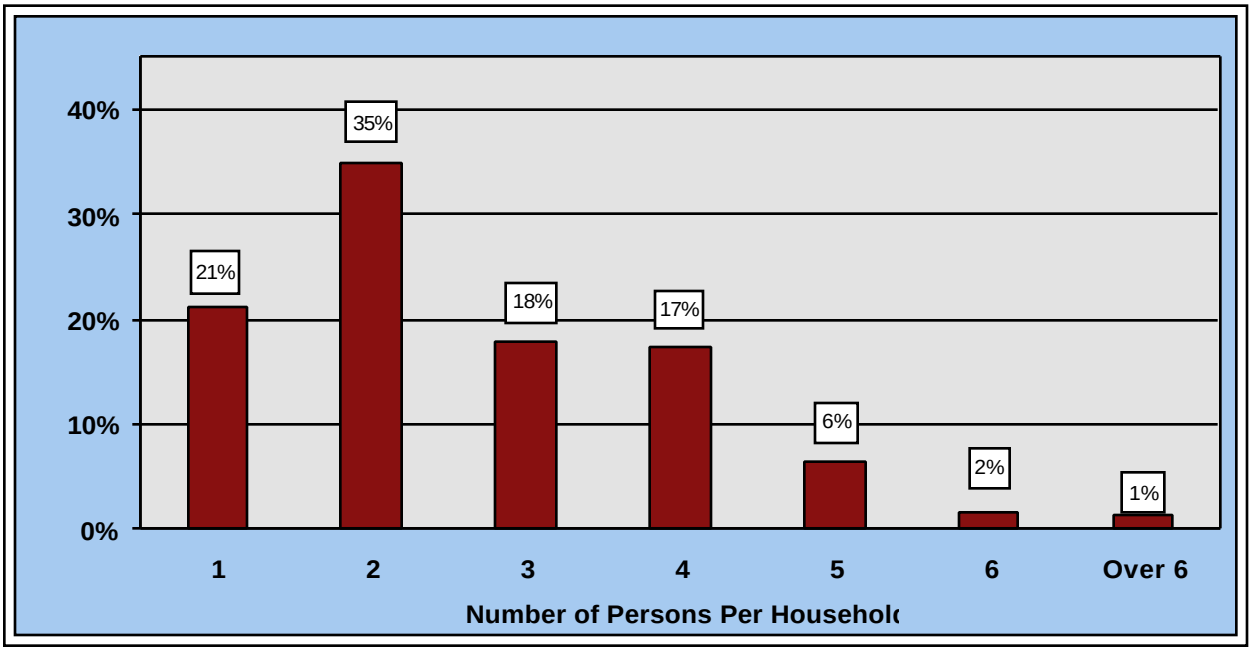

Figure 1.3 Size Distribution of CATI-1 Households

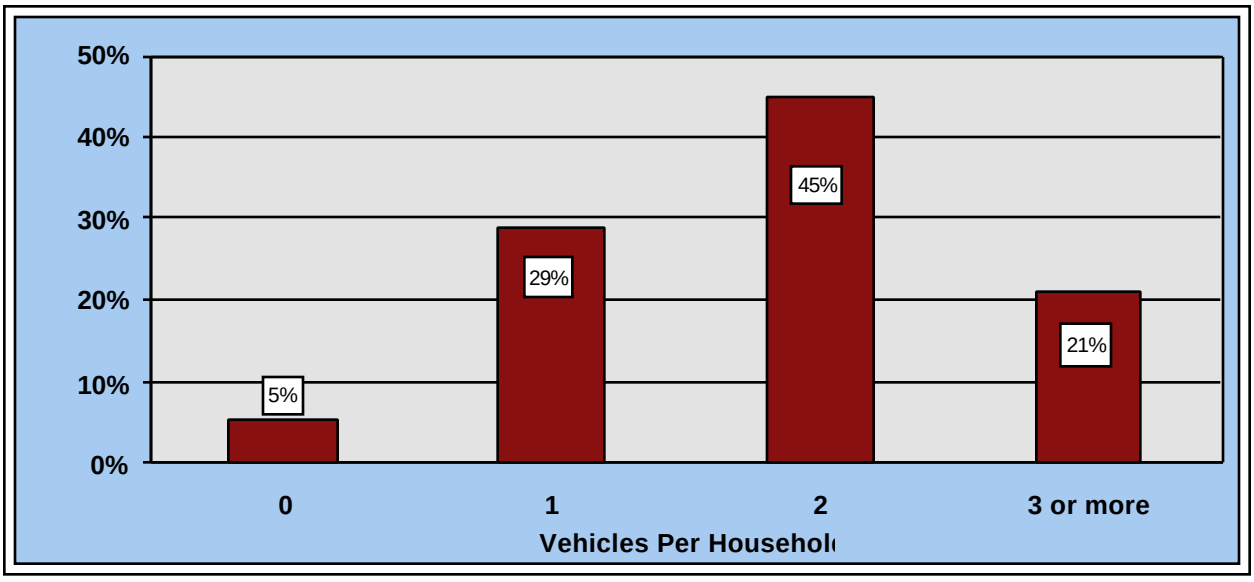

Figure 1.4 Distribution of CATI-1 Households by Vehicle Ownership

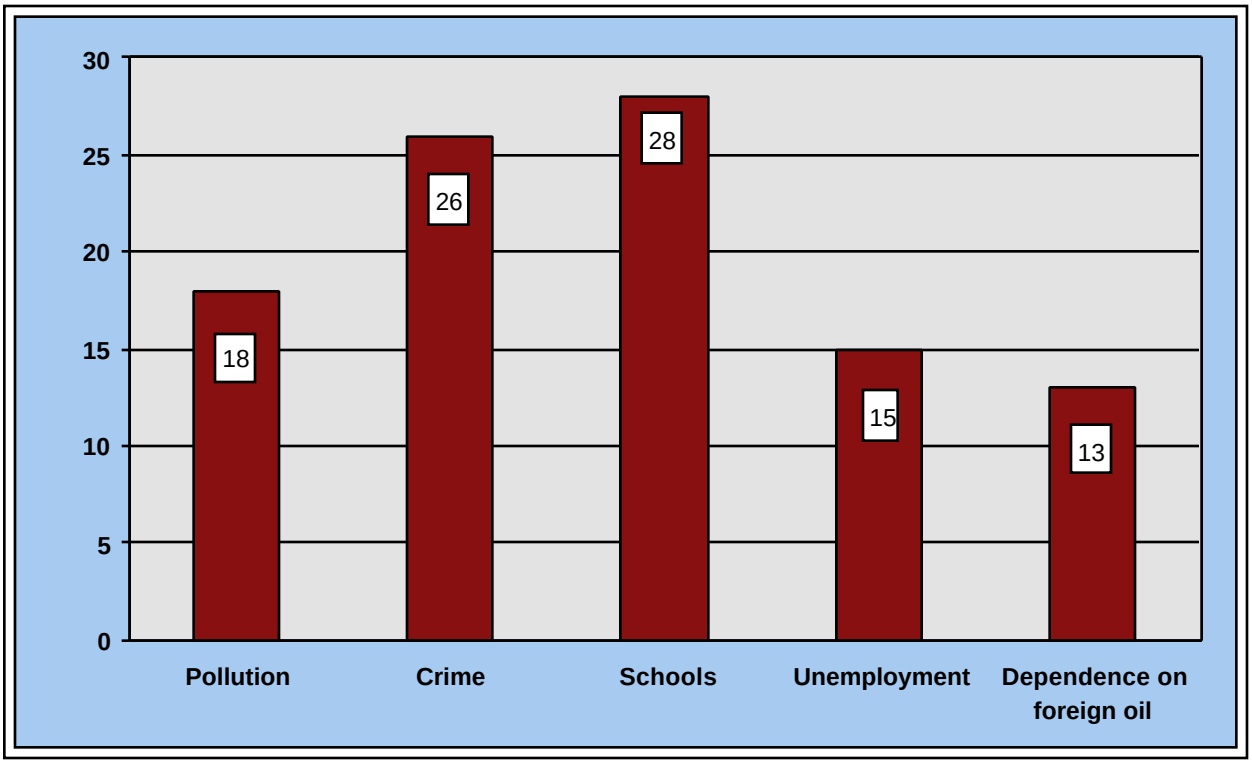

Figure 2.1 Mean Allocation of $100 to Help Solve Given Problems

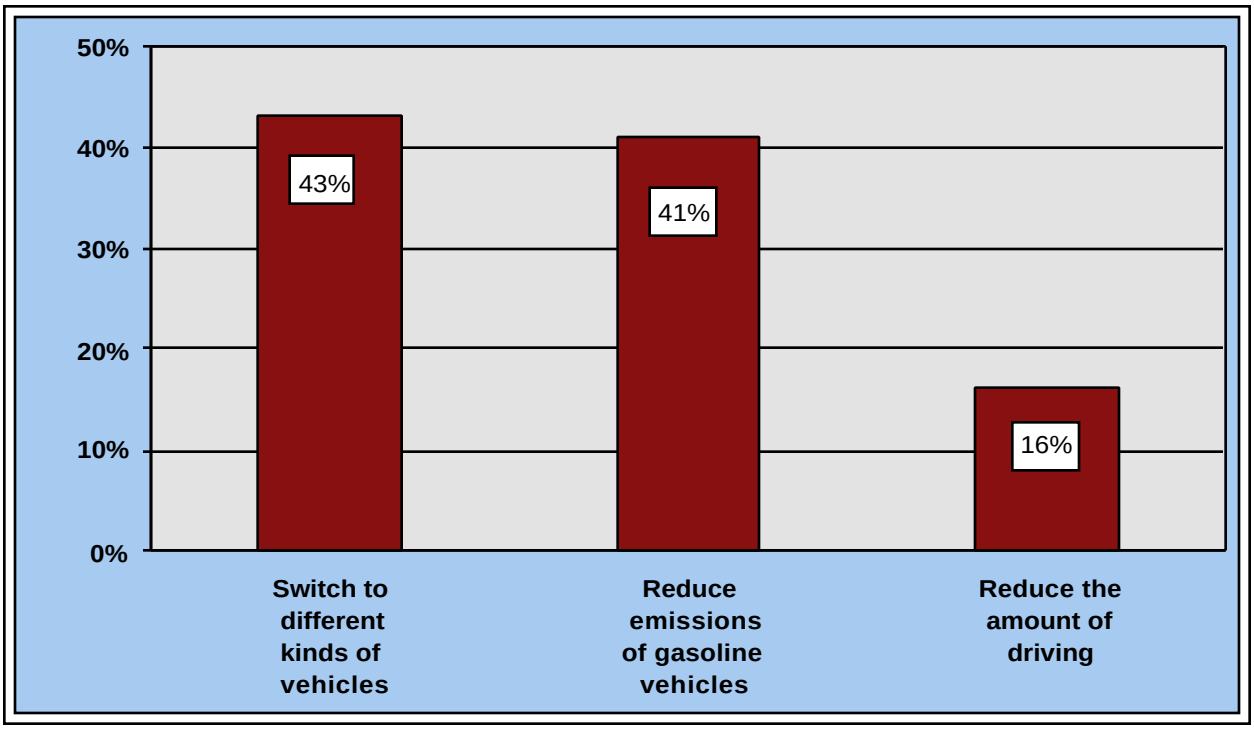

Figure 2.2 "Best" Option for Reducing Air Pollution

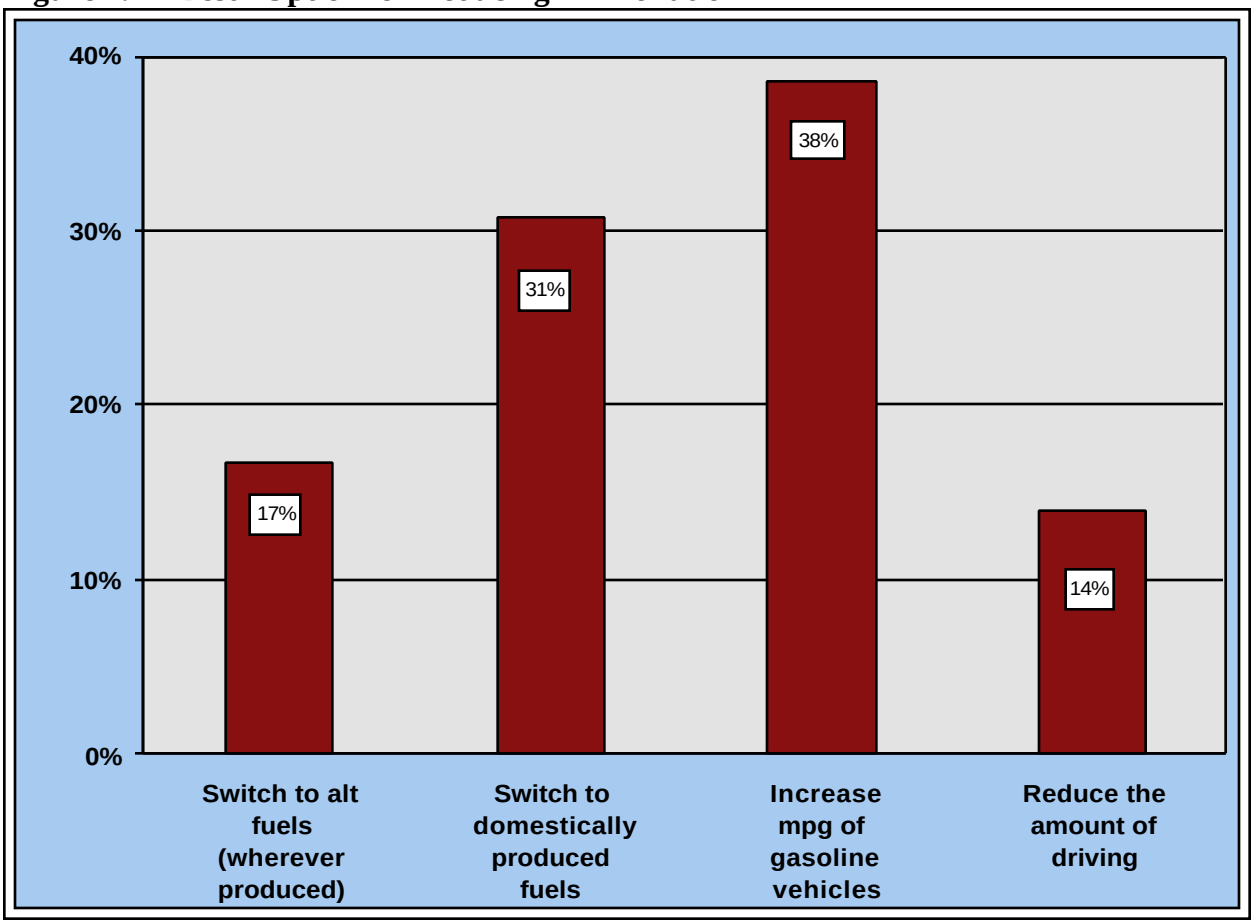

Figure 2.3 "Best" Option for Reducing Dependence on Foreign Oil

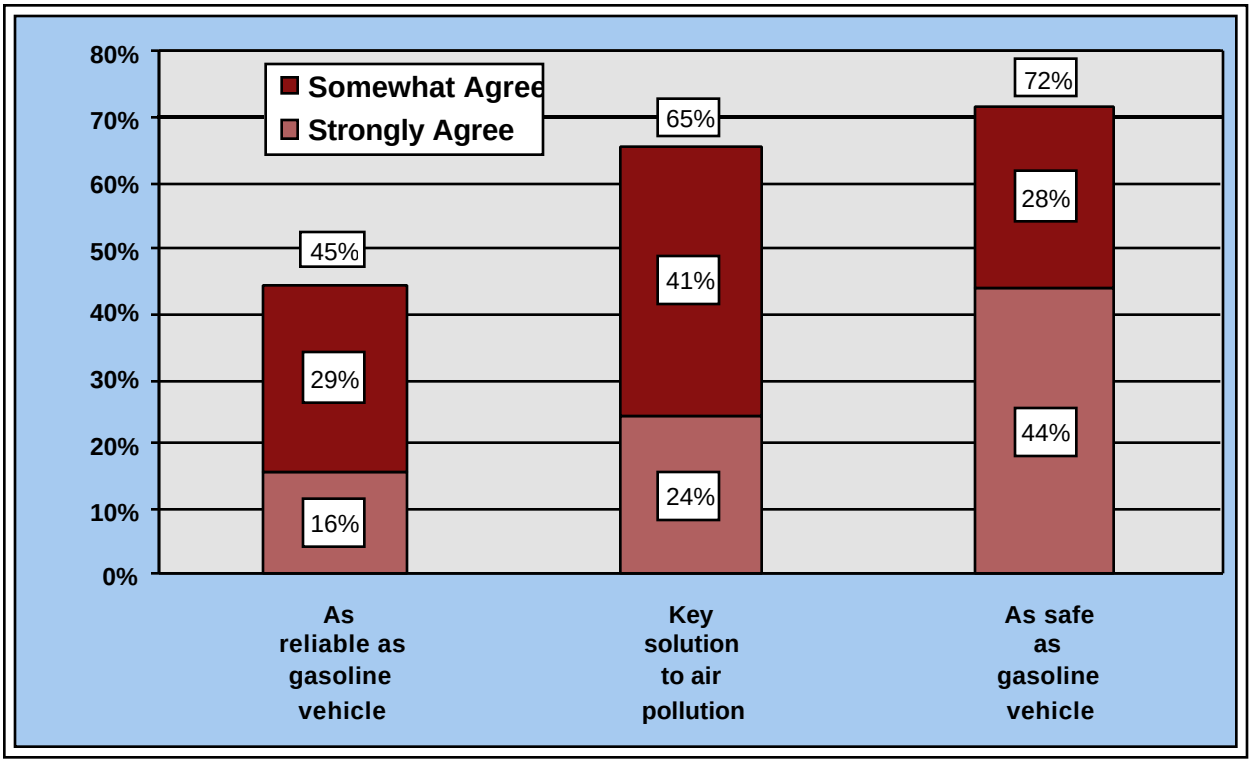

Figure 2.4 Selected Opinions on Electric Vehicles

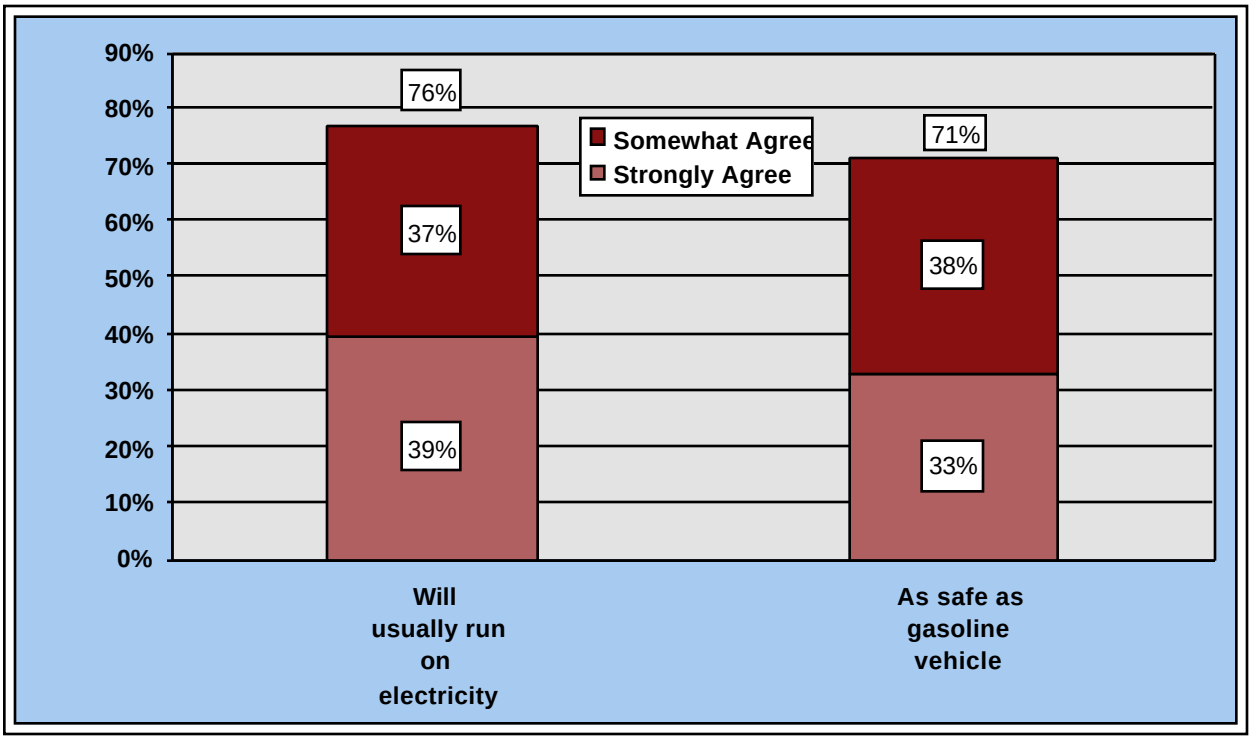

Figure 2.5 Selected Opinions on Hybrid Electric Vehicles

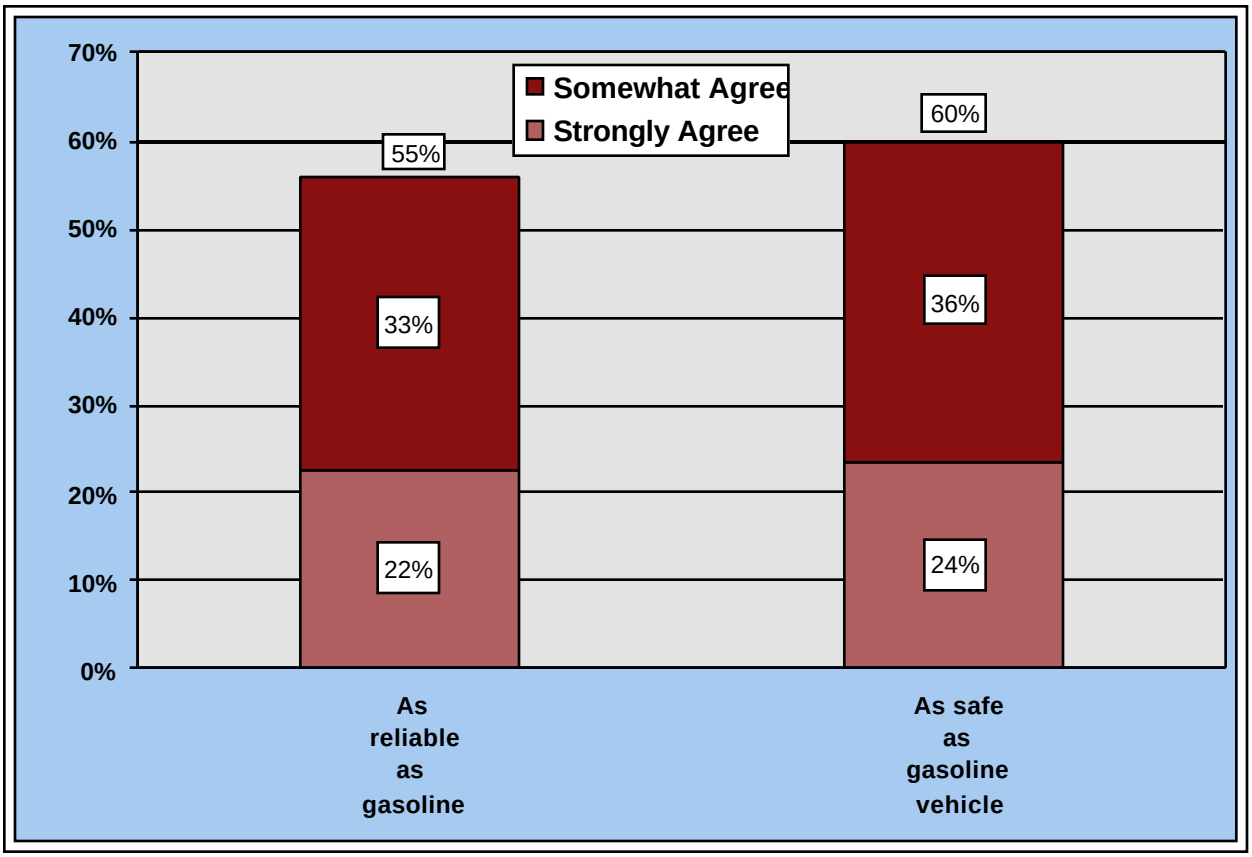

Figure 2.6 Selected Opinions on Alcohol Vehicles

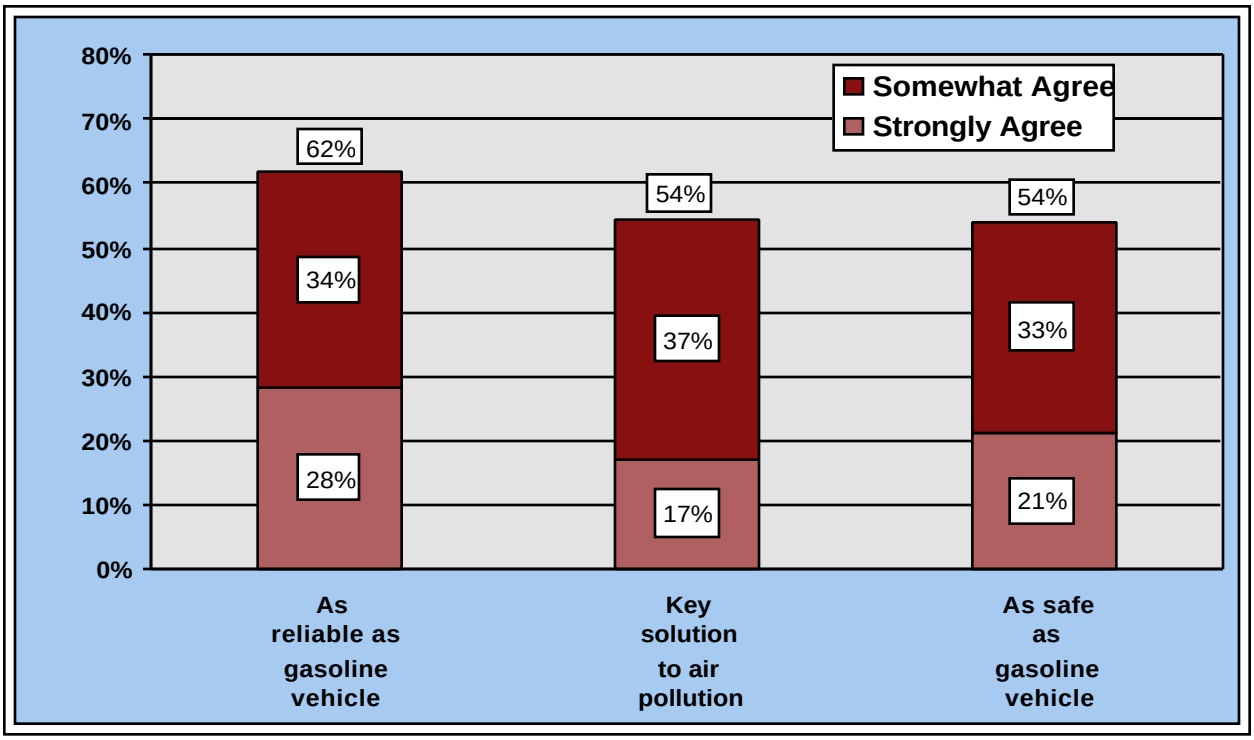

Figure 2.7 Selected Opinions on CNG/LPG Vehicles

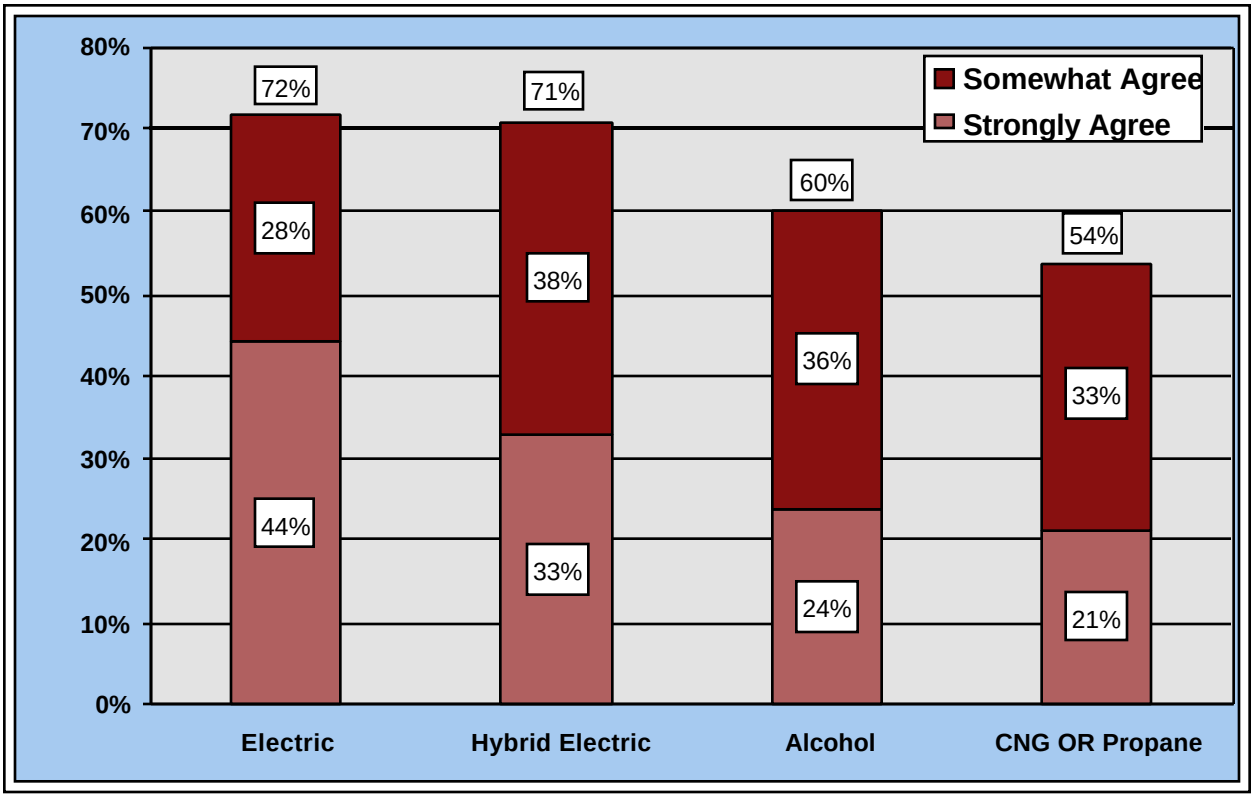

Figure 2.8 Cross AFV Comparison: An AFV is As Safe As a Gasoline Vehicle